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Third Meeting of the Joint Intergovernmental Regional Committee on Human Settlements and Environment

Addis Ababa, 22-26 July 1985

LC/NAIROBI

REPORT OF ECA/ARSO EXPERT GROUP MEETING ON THE ESTABLISHMENT AND/OR IMPROVEMENT OF NATIONAL STANDARDS FOR THE PROTECTION OF THE AFRICAN ENVIRONMENT

A. ATTENDANCE AND ORGANIZATION OF WORK

Organization and objectives:

1. The ECA/ARSO Expert Group Meeting on the Establishment and/or Improvement of National Standards for the Protection of the African Environment (First meeting of ARSO/TC.9) was held at ECA, Addis Ababa from 10-14 June 1985. The meeting was organized by the United Nations Economic Commission for Africa (ECA) and the African Regional Organization for Standardization (ARSO) located in Nairobi, Kenya. The main purpose of the meeting was to consider the mission report of the ECA/ARSO Consultant on Developing National Environmental Standards for the Protection of the African Environment.

2. The Expert Group meeting was held in response to ECA resolution 412 (XVI) of April 1981 on the Development of environmental protection legislation in the ECA region and ECA resolution 496 (XIX) of May 1984 - Environment and Development: Part II - Industrial environmental impact assessment. Both of these resolutions call upon ECA member States to develop precautionary measures and strategies to protect the African environment from pollution and degradation of natural resources, especially during the rapid industrialization forecasted for this United Nations Industrial Development Decade for Africa, 1980-1990.

3. The main objectives of the joint ECA/ARSO technical co-operation on the Development of African Regional Environment Standards are:

(a) to review the state-of-the-art in African countries in regard to environmental standards;

(b) to develop a programme of activities for implementing African regional standards;

(c) to promote regional and international co-operation on standardization in Africa; and

(d) to make recommendations and guidelines for strengthening national infrastructure for the assessment and management of environmental degradation in Africa.

Attendance:

4. The ECA/ARSO Expert Group meeting was attended by the following invited experts on standardization from 6 member States of the Economic Commission for Africa: Egypt, Ethiopia, Guinea, Kenya, Malawi and Senegal. (The full list of participants is attached as Annex I).

5. The following United Nations organs, organizations and bodies participated at the meeting: the World Health Organization (WHO), the Food and Agriculture Organization (FAO) and the United Nations Development Programme (UNDP).

6. Representatives of the following inter-governmental and non-governmental organizations participated as observers in the Expert Group meeting: the Organization of African Unity, the Tri Continental Development, and the African Regional Centre for Engineering Design and Manufacturing (ARCEDEM).

Opening of the meeting

7. The meeting was opened by the Executive Secretary of ECA, Prof. Adebayo Adedeji, who traced its origins to ECA Conference of Ministers resolutions 312 (XVI) of April 1981 on "Development of environmental protection legislation", and 496 (XIX) of May 1984 on "Environment and Development", and outlined its main objectives. In Africa environmental protection and management was relatively new, at least at the regional level, as such, expert meetings were needed so that at the national level the appropriate African environmental managerial tools could be identified and put into perspective.

8. Africa's major concerns with environmental management were not exactly the same as those of the industrialized countries. In Africa environmental issues were predominantly problems that reflected poverty and inadequately trained manpower as well as inadequate supplies of drinking water, drought and desertification, deforestation and soil degradation, and over-exploited natural resources. During the third United Nations Development Decade, poor performance in food and agricultural production, in industrial development, trade, finance and money transactions and in debt servicing, had reached crisis level, exacerbated by the double scourge of drought and desertification. Drought and desertification, coupled with demographic trends, the dependence of the African economy on external inputs, disequilibrium due to trade imbalances, worsening external indebtedness and destabilisation of the economies of front-line States (and others by internal strife), had all contributed to the problem, and worsening environmental degradation was nullifying the efforts of African countries to rise above poverty and underdevelopment more than two decades after independence.

9. Environmental degradation in Africa was the result of several factors, such as the traditional system of shifting cultivation which was coming under undue stress from urban sprawl and overpopulation; deforestation, with the resulting soil erosion floods, landslides and eutrophication of lakes; desertification, a lack of sanitation; bush fires started for hunting and clearing; overgrazing; and pollution in its various forms. Hence, the development of standards for the protection of the African environment must be considered in its widest senses, involving not only environmental assessment to maintain specified tolerable levels of pollutants, drugs and synthetic additives in the air, water, soils, seas, food and feed, for the overall safety and health of man and other living things, but also proper environmental management of natural resources to prevent their degradation, including contamination by pollutants. The role of ARSO, as he saw it, was to ensure account was taken of environmental considerations in the activities of its technical committees on, for example, pharmaceuticals, agro-chemicals or industries, in order to be able to cope with budding pollution problems. ECA's role was to plan for better environmental management so as to eradicate the wider problems of environmental degradation in Africa.

10. The report of the consultant on developing African regional standards indicated the great variety of institutional arrangements existing within any single African country for monitoring environmental pollution, drinking water supplies, sanitation and environmental health, environmental degradation through soil erosion, deforestation, drought and desertification, and conditions in squatter settlements and slums. They ranged from the Ministry of Health to the Ministry of Natural Resources, from meteorological services to special sewage and water authorities, from national research councils to Government central analytical laboratories. National Standards Bodies (NSBs) with good laboratories for quality control in industry also existed, and some had started monitoring water pollution, pesticide contamination and effluents. An important question for the Expert Group to discuss was, therefore, which national administrative organizations or agencies should be responsible for establishing, regulating and monitoring environmental effluent standards relating to air and water pollution and to ecological degradation of the land and seas: should it be national environmental machineries such as the Ministry of Environment, environmental co-ordinating bodies and agencies, or should the responsibility be given to National Standards Bodies?

11. Care must be taken in establishing environmental standards. It should be done without causing financial hardship or sacrificing the rapid industrial development and economic growth needed by Africa's peoples. The Group must carefully review the implications of strictly applying the very high pollution control standards and requirements of the industrialized countries to the African environment. The important thing was to utilize the standards of the industrialized countries, learn from their mistakes and keep a strict watch on the danger that unwary developing countries might be persuaded to accept the dumping of developed countries' hazardous chemicals and industrial wastes in their territories. The environmental standards of the industrialized developed countries could be used as guidelines for discussing African environmental standards, taking into account the biological facts that toxic chemicals at certain concentrations in the air, water, soil, in food or in feed, were hazardous to life anywhere.

12. The representative of the Secretary-General of the African Regional Organization for Standardization (ARSO) said that his organization was responsible for the promotion of standardization on the continent. Standards in themselves were useless, however, unless they could be applied: their implementation involved quality control, certification, testing and metrology. ARSO had therefore adopted an integrated approach to standardization in order to ensure all the relevant aspects were adequately covered. Eight Technical Committees had been set up by the ARSO Council in 1982 to prepare African regional standards in the priority sectors of basic and general standards, agriculture and food products, building and civil engineering, mechanical engineering and metallurgy, chemistry and chemical engineering, electrotechnology, textiles, and transport and communications. In 1984 the Council had decided to set up a ninth technical committee, to be responsible for standardization in the field of environmental protection, sanitation and pollution control. Its decision had coincided with the initiation of the ECA project on the establishment and/or improvement of

national standards for the protection of the African environment, which provided on opportunity for very close collaboration between ARSO and ECA in recruiting a consultant to survey the infrastructure in selected African countries with a view to the development of national standards for protection of the environment. The result of that mission was a report which would form the subject of the Group's discussions during the coming days. It was the hope of ARSO that the meeting would examine the mission report critiecally and come up with conclusions to guide ARSO, and especially the new technical committee in the development of African regional standards for environmental protection and pollution control. The Expert Group would then reconstitute itself as ARSO Technical Committee No. 9 and hold its first meeting to determine the range of subjects it would cover, consider establishing sub-committees for various subjects, determine priorities and give guidelines to its secretariat on the further development of regional standards for environmental protection and pollution control. The Committee will also be called upon to adopt eight international standards as draft African Regional Standards. More standards would be recommended for adoption at future meetings.

13. Since the establishment of the eight ARSO technical Committees in 1982, two committee meetings had taken place, a total of 250 draft African Regional Standards adopted, and 115 circulated to ARSO member States for voting. All 115 had been approved by the member States. Preparations for printing the standards were well advanced, and it was hoped that they would be available for use some time in 1986. Quality control, certification, testing and metrology programmes had also been drawn up, and as soon as resources permitted activities in those areas would begin, thus ensuring that the newly adopted standards could be enforced.

14. In conclusion, he wished the Expert Group success and said he was confident that collaboration between ARSO and ECA would increase in the future.

Election of Officers:

15. The following officers were elected:

Chairman:	Mr. Cheikh Kane, Directeur, Institut Senegalaise de Normalisation, Dakar, Senegal
Rapporteur:	Mr. Getahun Tabor, Head Biological Standards Division, ESI Addis Ababa, Ethiopia

Agenda and organization of work:

16. The ECA/ARSO Expert Group meeting adopted the following agenda as contained in document E/ECA/SDEHSD/ENV/Inf.1:

1. Opening of the meeting

2. Election of officers

3. Adoption of the agenda and organization of work

4. Developing national environmental standards for Africa:

   (a) State-of-the-Art on Environmental Standards in African Countries;

   (b) Programme of action for the Development of African Regional Standards for Environmental Protection;

   (c) International Co-operation on Environmental Standardization in Africa;

   (d) Recommendations and Guidelines for Strengthening National Infrastructures for Assessment and Management of Environmental Degradation in Africa.

5. Programme of Activities of ARSO Technical Committee on Environmental Protection and Pollution Control (ARSO/TC.9)

6. Date and venue of next meeting

7. Adoption of the Report and Closure of the meeting

17. The meeting also adopted the following programme or work:

Morning session: 9 a.m. to 1.00 p.m.

Afternoon session: 3 p.m. to 5.00 p.m.

Coffee break in the morning and tea break in the afternoon were allowed for.

B. PROCEEDING OF THE MEETING

Chapter 1 - State-of-the-art on Environmental Standards in African countries

18. The consultant presented chapter 1 of the report entitled the"State-of-the-art on environmental standards in African countries" in terms of the development of environmental standards for air, water and soil pollution as well as on environmental degradation. He stated that this chapter gives the background to the study, a general analysis of the prevailing situation as well as future trends and courses of action in the area of standards for environmental protection and management. It also gives a detailed discussion of the mission to four selected countries - Ethiopia, Egypt, Malawi and Zimbabwe - that were chosen for the study. He also made an analysis of the few completed questionnaires received from ECA member States for that purpose.

19. He further stated that the chapter highlights the collaboration of ARSO with ECA in carrying out this ECA programme activity for 1984-1985 on the establishment and/or improvement of environmental standards in the region. The objectives of this

programme activity being to provide a framework for assisting member States to establish or improve environmental standards in general for air, water, soil pollution and land degradation.

20. He emphasized that the purpose of the study was, therefore, to identify the existing environmental standardization infrastructure and institutional setting, the range and sources of toxic or particulate pollutants and from these, determine tolerable limits for each pollutant.

21. He said that he visited the countries named above as well as the ARSO Office, UNCHS (HABITAT) and UNEP (GEMS) all based in Nairobi, Kenya. With this background, chapter 1 discusses the different aspects of the three areas of pollution in these countries that are being handled by them as well as inputs from the organizations visited.

22. In the discussions that followed on this chapter, the following issues were raised for updating the content and scope of the chapter:

23. The representative of HABITAT raised the point that one of the priority areas was pollution in settled areas due to uncontrolled development and building along water-courses as well as pipe water pollution through back-syphoning, household and human waste disposal. After discussion, the participants agreed that this should be reflected in paragraphs 25 and 48 of the consultant's report.

24. One Expert raised the point that health related problems were not fully covered in this chapter and that the problem of water contamination by human waste, causing water borne diseases should be included in paragraphs 26 - 28 and 113. After discussion, it was agreed that this was an important issue and should be included as in the final version of the chapter.

25. The observer from Tri-Continental Development raised the issue of functional co-ordination as an area which should have been fully discussed in this chapter; the need for closer collaboration between the National Standards Bodies and the National Environmental Co-ordination bodies was emphasized; other participants pointed out that in most African countries, regulations regarding environmental standards were usually drawn by individual ministries without close consultation with the National Standards Bodies (NSB) and this rendered co-ordination difficult; it was, therefore, necessary for the National Standards Body to be responsible for the co-ordination of all national standards both with the national environmental machineries and the other government ministries; the concerns of the expert group was that this should be reflected in the final version of the consultant's report.

26. One Expert raised the point that, in paragraphs 49-51, reference to poverty as being the most important causes of environmental destruction was rather misleading as to what should be measured in considering standards. A representative of the Secretariat suggested that this should be amended to include "poverty and under-development", to give those paragraphs the full meaning of the situation; this was agreed.

27. One Expert also observed that on the whole, mention should be made of those countries where standards exist although this was mentioned in the annex in general terms as the consultant explained.

28. A representative of the Secretariat emphasized that there was the need to complete the questionnaires that were sent out so that chapter 1 could be updated, as it was only 75 per cent completed without the data from the member States.

29. A representative of the Secretariat observed that in the final presentation, there should be an overview of the situation of standards as they apply elsewhere, particularly in terms of administration and enforcement so that it will provide a basis for comparison. The consultant replied that this was impracticable in view of the limited time available for the study as the literature did not exist.

Chapter 2 - Programme of action for the development of African Regional Standards for environmental protection

30. The Consultant's report on the programme of action for the development of African Regional Standards for environmental protection called upon ARSO to establish a Technical Committee (TC) to deal with standardization in the field of environmental protection and pollution control. The various areas to be covered by the TC were identified as environmental health and sanitation and safe drinking water supply, air pollution, human settlements, desertification and drought. Within these broad areas, priority subjects were identified for standardization in the short-term (5 years) and long-term (10 years).

31. In order to provide support for the standardization activities of the TC, the consultant recommended that ARSO should strengthen its information and documentation system and develop capability for the collection and dissemination of information on pollution standards and legislation, and related environmental subjects. In this connection, the analysis of the questionnaire on existing environmental standards in Africa was to be accorded priority. Other activities under information and documentation are, strengthening of the institutional capabilities of the member States of ARSO and their linkage with ARSO's Documentation and Information System (ARSO-DIS), development of directories of experts and institutions involved in environmental standards and monitoring, and so on.

32. In order to promote active participation of National Standards Bodies (NSBs) of ARSO member States in ARSO technical activities, the consultant stated that it will be necessary for ARSO to be given technical assistance support to enable it to assist its member States to establish NSBs or strengthen already existing ones to upgrade their capability for standardization, quality control, certification, testing and metrology. The non-member States of ARSO should also be persuaded to join ARSO so that they can also benefit from this assistance programme and contribute effectively to the activities of ARSO/TC on environmental protection and pollution control.

33. In the case of environmental monitoring at the national level, the consultant stressed the importance for the NSBs to identify the various functional organizations responsible for enforcement of environmental standards and regulations in order to co-operate closely with them in the development of the necessary infrastructure for controlling environmental pollution and degradation.

34. The consultant also made mention of a joint ECA/ARSO project of Technical Assistance to member States of ARSO and ECA. Under this programme, it is expected that assistance to member States will be made through projects to be identified by consultants. Some of the activities which would be undertaken under this programme are manpower and institutional development, development of training materials, organization of seminars, development of directories and so on.

35. In his contributions on the priority subjects identified for standardization in the short-term, one Expert mentioned rampant defaecation and seepage of excreta into water bodies as the single-most important cause of water-borne diseases and death in Africa. He, therefore, proposed the addition of "low cost human waste disposal systems" as a priority item for standardization in the short-term under environmental health and sanitation and safe drinking water supply in para. 128.

36. To enable ARSO to finalise work on the questionnaire and obtain valuable information needed for its standardization efforts, countries which had not submitted their completed questionnaires to ARSO were urged to do so as soon as possible. Already the consultant had collected the completed questionnaire from the countries visited (Ethiopia, Egypt, Malawi and Zimbabwe) and ARSO has received only four more namely, Kenya, Senegal, Tanzania and one other.

37. Several Experts stressed the need for co-ordination of activities at the national level. This was considered necessary in order to avoid duplication of effort, with its resultant waste of resources. It was suggested that in cases where there are Ministries of Environment or Environmental Authorities responsible for co-ordination of environmental activities, the standardization aspects should be the responsibility of the NSBs, and the functional bodies should be responsible for implementation of environmental standards and regulations.

38. One Expert raised the question of whether the African Regional Standards to be developed by ARSO/TC 9 would be compulsory standards in view of the health aspects of environmental standards. The representative of ARSO replied that the African Regional Standards developed by ARSO are for adoption and implementation by member States at the national level. Whether these standards should be compulsory or voluntary is a decision to be taken by member States. At the regional level, ARSO hopes to enforce compliance with its standards through operation of a regional certification system. Another participant wondered why ARSO was dealing with standards in the social field, unlike in the developed countries where NSBs are more concerned with standardization in the technical fields. In reply to this question, the representative of ARSO stressed the pioneering role of standardization in Africa and the necessity for NSBs to be involved in standardization in all development sectors.

39. On training, the meeting was informed by the Secretariat of the current ECA/UNEP project on the Incorporation of environmental components into the training programmes of ECA-sponsored institutions. Under this project, selected staff of eleven ECA-sponsored institutions would be given training to enable them to introduce environmental considerations into their regular training programmes.

Chapter 3 - International Co-operation on Environmental Standardization and Degradation in Africa

40. In introducing Chapter 3, the consultant pointed out that the activities of regional and international organizations in Africa and outside Africa involved in some aspect of environmental protection and pollution control, assessment or management were being highlighted. This chapter also contains a review of donor agencies providing technical assistance support for the work of some of the regional organizations listed.

41. In this chapter of the Consultant's report, the question of co-ordination was raised again by a few Experts. This time, not on national co-ordinating mechanisms, but on the need for subregional co-ordination between a group of neighbouring countries with similar environmental problems, as well as on the need for regional and international co-operation to avoid duplication of efforts.

42. In response to this point on co-ordination, the representative of ARSO informed the meeting that some subregional organizations such as the Preferential Trade Area (PTA) of eastern and southern Africa and the Economic Community of West African States (ECOWAS) have signed joint agreements with ARSO for assistance in drawing up standards for trade promotion within the subregions. He also pointed out that since a number of regional and international organizations mentioned in this chapter have already developed standards in various areas of development, ARSO was planning to examine these standards critically, modify them to suit the African environment for adoption by its member States, instead of applying them lock, stock and barrel!

43 The representative of the Secretariat pointed out that since the Consultant was only able to collect information for this chapter at the United Nations Offices in Nairobi, representatives of United Nations organizations, intergovernmental and non-governmental organizations present, should examine the entries here for improvement at the global level.

44. One Expert pointed out that the Consultant's report was silent on radio-active materials, either as pollutants in the air, water and food, or in its role at destroying bacteria for the preservation of foods, as it was important in certain African countries. The chairman reflected that this point should be incorporated into each chapter of the Consultant's report, as ARSO has already listed it in its work programme.

45. Several Experts pointed out that international organizations playing an important role in developing environmental standardization or combating environmental degradation, were not mentioned in chapter 3 of the Consultant's report. The following organizations were to be included with the submission of a paragraph on their activities by certain Experts at the Expert Group meeting:

(a) UNDP for its role in funding UNSO and ARSO, and for providing country projects some of which deal with environmental protection and pollution control;

(b) the International Atomic Energy Agency (IAEA) for being responsible for radio-active materials and the safe disposal of radio-active wastes;

(c) UNIDO for its role in industrial development and industrial waste disposal problems;

(d) The International Programme for Chemical Safety (IPCS) of WHO/UNEP/ILO should be covered also;

(e) The activities of the International Electrotechnical Commission (IEC) should also be included as it has been engaged in environmental pollution testing for a long time.

(f) The Permanent Inter-State Committee for Drought Control in the Sahel (CILSS) should be mentioned as an intergovernmental organization to combat drought and desertification in the Sahel with the co-operation of UNSO and the OECD. Also the role of the Institut du Sahel and the Club du Sahel should be given.

46. Then the Consultant pointed out that donor agencies were dealt with in page 122 of his report for their activities. The representative of ARSO pointed out that the assistance received from France, the Federal Republic of Germany as donor governments and that from UNDP and UNIDO should be reflected in Chapter III of the Consultant's report.

47 The representative of WHO pointed out that under the International Drinking Water Supply and Sanitation Decade (IDWSSD), a total of 65 million dollars was available for projects in the three subregions in Africa based at (i) Bamako for West Africa, (ii) Addis Ababa for Central Africa and (iii) Lusaka for Eastern and Southern Africa.

Chapter 4 - Recommendations and Guidelines for strengthening national infrastructure for the assessment and management of environmental degradation in Africa

48. The Consultant presented agenda item 4 (d) which deals with the above-mentioned chapter 4.

49. He pointed out that this section of the report also included:

(a) Summary of findings for the development of national environmental standards;

(b) Guidelines for strengthening national infrastructure for assessing and managing environmental degradation in Africa.

50. The Consultant stated that the development of environmental standards can be divided into five main topics as reflected in his report. These were amended to read:

(a) General information;

(b) Air pollution and weather forecasting;

(c) Water pollution and sanitation;

(d) Ecological degradation; and

(e) Establishment and maintenance of environmental standards.

51. During the discussions that followed, a member of ECA Secretariat pointed out that the outlines given in the introductory section of chapter 4 of the Consultant's report does not reflect the main body of this section. The ECA Secretariat observed that each topic should have been addressed as outlined in the introductory section. The consultant noted the observation and promised that it will be taken care off in the final report.

52. One Expert also observed that the Consultant's report did not reflect the true functions of the Meteorological Authority in Egypt. He pointed out that in Egypt, there are laboratories for controlling air pollution through existing regulations and that this agency does conduct air pollution monitoring and is basically interested in motor vehicle emission as well as with air pollution. The expert then promised to give a written statement regarding the functions of the Egyptian Meteorological Authority to the ECA Secretariat to be reflected in the Consultant's Report.

53. In his presentation regarding guidelines for strengthening national infrastructure for assessing and managing environmental degradation in Africa, the consultant called for the following action plan and steps to be observed at the national level:

(a) establish or designate a government authority to be the national contact point e.g. meteorological services, standards development activities, control of desertification, drought, monitoring and early detection of national disasters, monitoring and control of environmental pollution, and so on.

(b) assess the problems prevailing in a country on specific fields and collect adequate data which would assist in decision-making on what action to take at country, subregional or continental levels;

(c) assist in the establishment of national priorities for action. This activity, he says, requires assistance of international organizations like UNSO, UNESCO, FAO, WHO, WMO, ILO, UNEP and HABITAT etc. At this point, a member of the ECA Secretariat also pointed out that section (f) of this part of the report did not relate to guidelines for strengthening national infrastructure. The consultant noted the observation and stated that in the final copy of his report these observations would be corrected.

54. During the discussions that followed, one expert pointed out that even though the consultant visited Kenya as shown in Annex I of the Consultant's Report, there was no mention of Kenya's standardization activities in the report. In his reply, the Consultant stated that he did not visit any of the national institutions Kenya, because the Government of Kenya was not ready to receive him. Therefore, in Kenya, the Consultant visited only international organizations. It was agreed to delete Kenya from Annex I - the list of countries visited and replace it with a list of institutions visited.

55. On a question raised about the significance of Annex III - List of recommended national and regional standards on the environment, the Consultant replied that the list includes some environmental standards already existing in some African countries, hence ARSO/TC 9 can consider the list in formulating its work programme.

C. SUMMARY OF RECOMMENDATIONS AND CONCLUSIONS

56. Although Chapter 4 of the Consultant's Report deals with recommendations and guidelines for developing national environmental standards, yet it is necessary to summarize the recommendations of the Expert Group Meeting on this topic here below:

Recommendations

1. The National Standards Bodies (NSBs) should have overall responsibility for the development of environmental and other standards in the country, and that National Environmental Co-ordinating bodies should be responsible for implementing these standards as they relate to environmental management.

2. NSB should also collaborate with the National Environmental machinery who are responsible for overall environmental assessment and management in the country.

3. At the regional level, ARSO and ECA should liaise with other international organizations (UN, IGOs, NGOs) working on environmental standardization, to avoid duplication of efforts.

4. Priority areas in the work programme of ARSO/TC 9 on developing regional standards for the protection of the African environment should emphasize safe drinking water supply, human waste disposal, drought and desertification problems.

5. At this stage of Africa's development, there is an urgent need for the development of "social standards" for environmental degradation such as, approved methodology for environmental impact assessment, codes of practice for low cost pit latrines, guidelines, codes of conduct, and so on.

6. African countries should also critically examine for adoption, taking into consideration the local conditions, the very precise "technological/ scientific standards" indicating the limits of pollutants in the environment for health and safety, which have been developed by the industrialized countries.

7. Supporting measures to promote effective development of standardization for the protection of the African environment should include:

   (i) strengthening of national laboratories for monitoring pollutants and testing for contaminants, with a supply of scientific equipment and information;

   (ii) organizing of training workshop, seminars, refresher courses for scientists and technicians involved in environmental standards;

   (iii) establishment of national infrastructures such as standards bodies, environmental co-ordinating machinery, focal points on specific environmental problems, where none exist;

   (iv) develop environmental legislation for enforcement of standards, and provide environmental information and education for consciousness raising in the public sector.

8. The questionnaires sent out under the ECA/ARSO project should be completed and returned by all member States as soon as possible for a more realistic assessment of the development of national environmental standards in Africa.

57. The following conclusions were arrived at:

1. The amendments made on the Consultant's report by the experts were attached to the draft Report of the Expert Group Meeting for consideration. They will be taken into account in preparing the ECA/ARSO document which will be distributed to ECA member States with the Report, for consideration at the Third Meeting of the Joint Intergovernmental Regional Committee on Human Settlements and Environment at Addis Ababa, 22-26 July 1985.

2. During the deliberations at the Expert Group Meeting, each expert expressed praise and gratitude to the ECA/ARSO Consultant, Dr. Fletcher Banda for the high quality of his report, which was the main working document of this Expert Group Meeting.

Adoption of the Report and Closure of the Meeting (item 7)

58. The rapporteur presented the draft report of the meeting and it was adopted paragraph by paragraph. The meeting also discussed in detail the summary of the recommendations of the consultant's report and the conclusions of the expert group meeting. Then the amendments made on the consultant's report by the experts, which was annexed to the draft report, were considered.

59. It is noted that since the Expert Group Meeting was jointly held between ECA and ARSO, the meeting considered Agenda item 5 on programme of activities and item 6 on date and venue of next meeting as the ARSO Technical Committee on Environmental Protection and Pollution Control (ARSO/TC.9). Hence, a separate report was prepared, discussed and adopted for the First meeting of ARSO/TC.9.

60. In closing the Expert Group meeting, the chairman expressed his thanks to the experts for their cooperation and to the secretariats of ECA and ARSO for facilitating the work of the Bureau. The Chief of the Environment Section expressed thanks to the experts on behalf of the Executive Secretary of ECA and the representative of ARSO did the same on behalf of his Secretary-General.

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ANNEX I

UNITED NATIONS ECONOMIC COMMISSION FOR AFRICA

ECA/ARSO Expert Group Meeting on the
Establishment and/or Improvement of
National Standards for the Protection of
the African Environment

(First meeting of ARSO/TC.9)

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